

DIALOG(R)File 347:JAPIO  
(c) 1999 JPO & JAPIO. All rts. reserv.

02992317 \*\*Image available\*\*  
ACTIVE MATRIX PANEL

PUB. NO.: **01-289917** [JP 1289917 A]  
PUBLISHED: November 21, 1989 (19891121)  
INVENTOR(s): MISAWA TOSHIYUKI  
                  OSHIMA HIROYUKI  
APPLICANT(s): SEIKO EPSON CORP [000236] (A Japanese Company or  
Corporation), JP (Japan)  
APPL. NO.: 63-119919 [JP 88119919]  
FILED: May 17, 1988 (19880517)

#### ABSTRACT

PURPOSE: To obtain a high-accuracy compact and reliable active matrix panel by providing thin film transistors (TR) which constitute a picture element matrix with the same section structure with a P or N type thin film TR.

CONSTITUTION: The picture element matrix 22 includes source lines 26-28 connected to a source line driver circuit 12, gate lines 24 and 25 connected to a gate line driver circuit 21, and picture elements 32 and 33 formed at intersections of the source lines and gate lines. A picture element includes a thin film TR TFT29 and a liquid crystal cell 30, which consists of a picture element electrode and a counter electrode 31. The thin films TR 29 which constitute the picture element matrix 22 have the same section structure with one of P type thin film TRs and N type thin film TRs which constitute a gate line driver circuit and a source line driver circuit. Consequently, the high- accuracy compact and reliable active matrix panel is obtained.

DIALOG(R)File 352:DERWENT WPI  
(c) 1999 Derwent Info Ltd. All rts. reserv.

008076583 \*\*Image available\*\*

WPI Acc No: 89-341695/198947

Related WPI Acc No: 94-250787; 94-256791; 94-295914; 97-538775; 97-538776; 97-538777; 98-116219; 98-116220; 98-116221; 98-116222; 98-116223; 98-155368; 98-164764; 98-254300; 99-513494; 99-513495; 99-513496; 99-513497; 99-513498; 99-513499; 99-513500; 99-513501

Active matrix CCD panel for CRT - has drive circuits on common substrate, with each picture element including single thin film transistor

Patent Assignee: SEIKO EPSON CORP (SHIH ); SEIKO EPSON CO LTD (SHIH )

Inventor: MISAWA T; OSHIMA H; HIROYUKI O; TOSHIYUKI M

Number of Countries: 008 Number of Patents: 035

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Main IPC	Week
EP 342925	A	19891123	EP 89304929	A	19890516		198947 B
JP 1289917	A	19891121	JP 88119919	A	19880517		199001
US 5250931	A	19931005	US 89351758	A	19890515	G09G-003/20	
199341							
US 5274279	A	19931228	US 89351758	A	19890515	H03K-019/094	
199401			US 92923752	A	19920731		
US 5341012	A	19940823	US 89351758	A	19890515	H01L-027/01	
199433			US 92923751	A	19920731		
EP 342925	B1	19941228	EP 89304929	A	19890516	G02F-001/133	
199505							
DE 68920200	E	19950209	DE 620200	A	19890516	G02F-001/133	
199511			EP 89304929	A	19890516		
KR 9409074	B1	19940929	KR 895609	A	19890428	G02F-001/133	
199635							
KR 9410107	B1	19941021	KR 8911609	A	19890428	G02F-001/133	
199637							
KR 9504739	B1	19950506	KR 895609	A	19890428	G02F-001/136	
199702			KR 9411607	A	19940525		
US 5583347	A	19961210	US 89351758	A	19890515	H01L-029/786	
199704			US 92924695	A	19920731		
			US 93142892	A	19931025		
			US 95402376	A	19950313		
US 5591990	A	19970107	US 89351758	A	19890515	H01L-027/13	
199708			US 92924695	A	19920731		
			US 93142892	A	19931025		

US 95402376 A 19950313  
US 95461409 A 19950605  
US 5341012 B1 19970204 US 89351758 A 19890515 H01L-027/01  
199711                   US 92923751 A 19920731  
US 5616936 A 19970401 US 89351758 A 19890515 H01L-027/13  
199719                   US 92924695 A 19920731  
                          US 93142892 A 19931025  
                          US 95402054 A 19950310  
US 5648685 A 19970715 US 89351758 A 19890515 H01L-029/41  
199734                   US 92924695 A 19920731  
                          US 93142892 A 19931025  
                          US 95402376 A 19950313  
                          US 95439411 A 19950511  
US 5656826 A 19970812 US 89351758 A 19890515 H01L-029/786  
199738                   US 92924695 A 19920731  
                          US 93142892 A 19931025  
                          US 95402376 A 19950313  
                          US 95412189 A 19950328  
US 5677212 A 19971014 US 89351758 A 19890515 H01L-021/336  
199747                   US 92924695 A 19920731  
                          US 93142892 A 19931025  
                          US 95402376 A 19950313  
                          US 95454733 A 19950531  
JP 9325368 A 19971216 JP 88119919 A 19880517 G02F-001/136  
199809                   JP 9725682 A 19880517  
JP 9325369 A 19971216 JP 88119919 A 19880517 G02F-001/136  
199809                   JP 9725683 A 19880517  
JP 9325370 A 19971216 JP 88119919 A 19880517 G02F-001/136  
199809                   JP 9725686 A 19880517  
JP 9325371 A 19971216 JP 88119919 A 19880517 G02F-001/136  
199809                   JP 9725687 A 19880517  
JP 9329810 A 19971222 JP 88119919 A 19880517 G02F-001/136  
199810                   JP 9725685 A 19880517  
JP 9329811 A 19971222 JP 9725687 A 19880517 G02F-001/136

199810 N  
JP 9754889 A 19880517  
US 5714771 A 19980203 US 89351758 A 19890515 H01L-029/786

199812  
US 92924695 A 19920731  
US 93142892 A 19931025  
US 95402376 A 19950313  
US 96721222 A 19960926

JP 10010584 A 19980116 JP 9725686 A 19880517 G02F-001/136

199813 N  
JP 9754888 A 19880517  
JP 10026776 A 19980127 JP 9754889 A 19880517 G02F-001/136

199814 N  
JP 9770278 A 19880517  
JP 10039337 A 19980213 JP 88119919 A 19880517 G02F-001/136

199817  
JP 9725681 A 19880517  
JP 10039338 A 19980213 JP 88119919 A 19880517 G02F-001/136

199817  
JP 9725684 A 19880517  
US 5754158 A 19980519 US 89351758 A 19890515 G09G-003/36

199827  
US 92924695 A 19920731  
US 93142892 A 19931025  
US 95402376 A 19950313  
US 95462275 A 19950605  
US 97877469 A 19970617

US 5780872 A 19980714 US 89351758 A 19890515 H01L-029/786

199835  
US 92924695 A 19920731  
US 93142892 A 19931025  
US 95402376 A 19950313  
US 95439411 A 19950511  
US 97792228 A 19970131

US 5811837 A 19980922 US 89351758 A 19890515 H01L-029/786

199845  
US 92924695 A 19920731  
US 93142892 A 19931025  
US 95402376 A 19950313  
US 95437872 A 19950509

KR 9514502 B1 19951202 KR 895609 A 19890428 G02F-001/133

199903  
KR 9411608 A 19940525  
KR 9521244 A 19950714

KR 9601506 B1 19960131 KR 895609 A 19890428 G02F-001/136  
199908

KR 9411608 A 19940525

US 5904511 A 19990518 US 89351758 A 19890515 H01L-021/336  
199927

US 92924695 A 19920731

US 93142892 A 19931025

US 95402376 A 19950313

US 95454733 A 19950531

US 97823130 A 19970325

SG 63566 A1 19990330 SG 962894 A 19890516 H01L-027/12 199932

Priority Applications (No Type Date): JP 88119919 A 19880517; JP  
9725682 A

19880517; JP 9725683 A 19880517; JP 9725686 A 19880517; JP  
9725687 A

19880517; JP 9725685 A 19880517; JP 9754889 A 19880517; JP  
9754888 A

19880517; JP 9770278 A 19880517; JP 9725681 A 19880517; JP  
9725684 A

19880517

Cited Patents: Jnl.Ref; A3...9036; EP 239958; GB 2070857; No-SR.Pub; 00  
3Jnl.Re

Patent Details:

Patent	Kind	Ln	Pg	Filing Notes	Application	Patent
EP 342925	A	E	1			

Designated States (Regional): FR GB NL

US 5250931 A 36

US 5274279 A 24 Div ex US 89351758

US 5341012 A 25 Div ex US 89351758

Div ex US 5250931

EP 342925 B1 E 32

Designated States (Regional): DE FR GB NL

DE 68920200 E Based on EP 342925

KR 9504739 B1 Div ex KR 895609

US 5583347 A 27 Div ex US 89351758

Cont of US 92924695

Cont of US 93142892

Div ex US 5250931

US 5591990 A 28 Div ex US 89351758

Cont of US 92924695

Cont of US 93142892

Cont of US 95402376

Div ex US 5250931

US 5341012	B1	2 Div ex	US 89351758
		Div ex	US 5250931
US 5616936	A	27 Div ex	US 89351758
		Cont of	US 92924695
		Cont of	US 93142892
		Div ex	US 5250931
US 5648685	A	26 Div ex	US 89351758
		Cont of	US 92924695
		Cont of	US 93142892
		Cont of	US 95402376
		Div ex	US 5250931
US 5656826	A	27 Div ex	US 89351758
		Cont of	US 92924695
		Cont of	US 93142892
		Cont of	US 95402376
		Div ex	US 5250931
		Cont of	US 5583347
US 5677212	A	26 Div ex	US 89351758
		Cont of	US 92924695
		Cont of	US 93142892
		Cont of	US 95402376
		Div ex	US 5250931
		Cont of	US 5583347
JP 9325368	A	18 Div ex	JP 88119919
JP 9325369	A	20 Div ex	JP 88119919
JP 9325370	A	19 Div ex	JP 88119919
JP 9325371	A	18 Div ex	JP 88119919
JP 9329810	A	19 Div ex	JP 88119919
JP 9329811	A	18 Div ex	JP 9725687
US 5714771	A	28 Div ex	US 89351758
		Cont of	US 92924695
		Cont of	US 93142892
		Cont of	US 95402376
		Div ex	US 5250931
		Cont of	US 5583347
JP 10010584	A	19 Div ex	JP 9725686
JP 10026776	A	18 Div ex	JP 9754889
JP 10039337	A	20 Div ex	JP 88119919
JP 10039338	A	19 Div ex	JP 88119919
US 5754158	A	Div ex	US 89351758
		Cont of	US 92924695
		Cont of	US 93142892
		Cont of	US 95402376
		Cont of	US 95462275

	Div ex	US 5250931
	Cont of	US 5583347
US 5780872 A	Div ex	US 89351758
	Cont of	US 92924695
	Cont of	US 93142892
	Cont of	US 95402376
	Cont of	US 95439411
	Div ex	US 5250931
	Cont of	US 5583347
	Cont of	US 5648685
US 5811837 A	Div ex	US 89351758
	Cont of	US 92924695
	Cont of	US 93142892
	Cont of	US 95402376
	Div ex	US 5250931
	Cont of	US 5583347
KR 9514502 B1	Div ex	KR 895609
	Div ex	KR 9411608
KR 9601506 B1	Div ex	KR 895609
US 5904511 A	Div ex	US 89351758
	Cont of	US 92924695
	Cont of	US 93142892
	Cont of	US 95402376
	Div ex	US 95454733
	Div ex	US 5250931
	Cont of	US 5583347
	Div ex	US 5677212

**Abstract (Basic): EP 342925 A**

A liquid crystal display having an active matrix panel consisting of a picture element matrix (22) mounted on a transparent substrate also includes multiple gate lines (24), multiple source lines (26) and multiple picture elements (33) including a thin film transistor. A gate line drive circuit (21) and a source line drive circuit (12) each comprise multiple thin film transistors all mounted on the transparent substrate.

The thin film transistors of the picture element matrix have a similar cross sectional structure to certain of the thin film transistors of the one of the gate line drive circuit and the source line drive circuit.

**ADVANTAGE -** Small and lightweight electronic viewfinder has extremely high resolution with a colour filter and low power consumption. Increased CRT flexibility.

Title Terms: ACTIVE; MATRIX; CCD; PANEL; CRT; DRIVE; CIRCUIT; COMMON;  
SUBSTRATE; PICTURE; ELEMENT; SINGLE; THIN; FILM; TRANSISTOR

Derwent Class: L03; P81; P85; U12; U14

International Patent Class (Main): G02F-001/133; G02F-001/136; G09G-  
003/20; G09G-003/36; H01L-021/336; H01L-027/01; H01L-027/12; H01L-  
027/13; H01L-029/41; H01L-029/786; H03K-019/094

International Patent Class (Additional): G02F-001/13; G02F-001/1345;  
G02F-001/137; G09F-009/00; G09F-009/30; G09F-009/33; G09G-005/00;  
H01L-021/84; H01L-023/528; H01L-023/535; H01L-027/02; H01L-  
029/78; H01L-031/0392; H03K-017/84

File Segment: CPI; EPI; EngPI